Fall 2013 Texas A & M-Commerce
Math 511.01S – Intro. To Real Analysis I

This is the syllabus for Math 511, Section 01S for Fall 2013. Please read it carefully. You will be responsible for all information given in the syllabus, and for any modification to it that may be announced in class.

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Webpage: **http://www.tamu-commerce.edu/math/FACULTY/OU/**
Office hours: MW: 3:00pm-4:00 pm,
TR: 9:30am- 11:00am, 2:00-3:00pm.

Classroom and meetings: Bin 302, MW 4:30pm -5:45pm,

Text: 1. *Mathematical Analysis*, Second Edition, by Tom M. Apostol. Materials from Chapter 3, 4, 5, 12, and 13 will be covered.

Course Description: Euclidean spaces and metric spaces, limit and continuity of maps between metric spaces, differential calculus of maps between Euclidean spaces. Prerequisite: Math 436 or Math 597 (Foundation of Analysis).

Learning Outcomes: Upon successful completion of this course, the students will be able to:

1. Explain open balls, open sets and compact sets in R^n and in a metric space.
2. Explain Cauchy sequences, complete metric spaces, and prove the Fixed-point Theorem.
3. Use ε-δ definitions of limit and continuity of maps between metric spaces to prove some basic properties of continuous maps including the open-set formulation of continuity and the invariance of compactness under a continuous map.
4. Explain the concept of uniform continuity of maps between metric spaces and prove Heine Theorem.
5. Define the differential of a map between Euclidean spaces; explain the Inverse Mapping Theorem and the Implicit Mapping Theorem.

Instruction: Instruction will include lectures, discussions, and some group work projects or seminars, based on time available.

Computer & supplies: Using Mathematica (a computer algebra system available in computers in Math Lab located in 328 Binnon Hall) is helpful but not required for this course.

Attendance: Attendance will be checked and it is your responsibility to sign the daily roll sheet. It is your benefit to attend the class.

Tests: There will be two midterm and a final exams for the course. The tentative schedules for the exams are:

Test 1: Oct. 2, Wednesday 4:30pm-5:45pm.
Test 2: Nov. 13, Wednesday 4:30pm-5:45pm.
Final exam: Dec. 11, Wednesday, 4:30-6:30pm

No makeup exam will be given unless you have verifiable evidence showing an acceptable reason to have to miss a test and, in that case, you must notify the instructor before the test or in the earliest possible time.

Homework & Quizzes: Homework will be assigned during each class period. You are strongly recommended to work out homework assignments on a regular basis since **No one can learn mathematics without doing it**! The assigned homework will be collected for grading every Wednesday in the week before the test or final week. Some homework problems or their similar forms will be used as test questions.

Course grades: The course grade consists of

Homework:	15%
Two Tests:	50%
Final exam:	35%.

The letter grades will be assigned based on the following scale:
A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: 0-59%

Withdrawal Policy: Concerning the deadlines and consequences of withdrawals please check on: https://ems.tamuc.edu/MasterCalendar/MasterCalendar.aspx

Basic Tenets of Common Decency: "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (Student's Guide Handbook, Policies and Procedures, Conduct.) This means that rude and/or disruptive behavior will not be tolerated.

The information for students with disability: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132, Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, email: StudentDisabilityServices@tamuc.edu

Getting help: A better way to learn math is to keep progress and leave no gaps in one's study. So please get help as soon as you need it. You are welcome to come to me or use email communication for help.

Homework Assignments

Section 3.1:
Section 3.2:
Section 3.3:
Section 3.4:

Section 4.1:
Section 4.2:
Section 4.3:
Section 4.4:
Section 4.5:

Section 5.1:
Section 1.2:
Section 1.3:
Section 1.4:
Section 1.5:
Section 1.6:

Section 2.1:
Section 2.2:
Section 2.3:
Section 2.4:
Section 2.5: